NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: xxx/xxx/2019

Region: Mooresville Regional Office
County: Cabarrus
NC Facility ID: 1300117
Inspector's Name: Melinda Wolanin
Date of Last Inspection: 10/25/2018
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Corning Incorporated

Facility Address:
Corning Incorporated
14556 Highway 601 South
Midland, NC 28107

SIC: 3229 / Pressed And Blown Glass, Nec
NAICS: 327212 / Other Pressed and Blown Glass and Glassware Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0515, .0521, .0516, .1413, .0524, .0958, .0711, .1109, .1407, .0614, .1100 and .1806, .1109; 02D .0317 of 02D.0530 and .0614
NSPS: Subpart IIII
NESHAP: CAA 112(j), Case-by-Case MACT, MACT DDDDD
PSD: N/A
PSD Avoidance: Yes
NC Toxics: (NCGS) 143- 215.107(a)(5) (House Bill 952)
112(r): N/A
Other: 40 CFR §81.334

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Tim Haley Environmental Engineer (704) 569-7677 PO Box 1700 Concord, NC 28026 haleytd@corning.com	Don Hefner Plant Manager (704) 569-6041 PO Box 1700 Concord, NC 28026 Donald.Hefner@corning.com	Tim Haley Environmental Engineer (704) 569-7677 PO Box 1700 Concord, NC 28026 haleytd@corning.com

Application Data

Application Number: 1300117.17D
Date Received: 12/11/2017
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 08436/T18
Existing Permit Issue Date: 01/25/2019
Existing Permit Expiration Date: 12/31/2023

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	0.0700	362.32	35.98	4.25	91.13	7.73	4.84 [Hydrogen chloride (hydrochlori]
2016	0.0700	342.47	25.15	4.21	85.85	7.34	4.64 [Hydrogen chloride (hydrochlori]
2015	0.0800	317.31	24.36	4.10	70.82	7.36	4.59 [Hydrogen chloride (hydrochlori]
2014	0.0500	300.09	34.65	3.56	66.92	6.58	3.94 [Hydrogen chloride (hydrochlori]
2013	0.0500	307.89	44.16	4.05	65.64	6.35	3.73 [Hydrogen chloride (hydrochlori]

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:** xxx/xxx/2019

Comments / Recommendations:
Issue: 08436/T19
Permit Issue Date: xxx/xxx/2019
Permit Expiration Date: xxx/xxx/2024

I. Facility Description.

This facility consists of optical fiber manufacturing lines using raw materials and natural gas burners for the production of optical fiber.

II. Purpose of Application

This facility currently operates under Air Quality Permit No. 08436T18 issued on January 25, 2019 which expires on December 31, 2023. This renewal application (1300117.17D) was received on December 11, 2017 while Air Quality Permit No. 08436T16 was in effect and was considered complete on that date. Two administrative amendments were performed on the air permit at this facility and issued as T17 and T18. Permit No. T17 was administratively amended prior to the expiration date of September 30, 2018 and was the current permit when the expiration date passed. Because the renewal application request of the current Title V Operating Permit was received at least six months before the expiration date of the current permit, the existing permit shall not expire until the renewal permit has been issued or denied per relation 15A NCAC 02Q .0513(c). All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

This renewal application is subject to a 30-day public and a 45-day EPA review period at this time.

III. Application Chronology

The table below outlines the modification to their permit starting from their last permit renewal (Air Quality Permit No. 08436T11 issued on October 3, 2013)

Application #	**Changes Made to the Permit**	**Permit Issued**
1300117.13B	Application to increase raw material flow from sources ID Nos. ES-C-003, ES-C-007, and ES-C-010.	08436T12
1300117.14A	Administrative amendment to updated revised state air toxics limitations.	08436T13
1300117.15C and .15D	Change the configuration of emissions controls for Source ID Nos. ES-C-001 and ES-C005	08436T14
1300117.15B	Administrative amendment to correct limits in reference to NSR/NAA avoidance for PM10 and PM2.5.	08436T15
1300117.17B and .17C	Added sources, control devices and a PSD avoidance condition	08436T16
1300117.18A	Administrative amendment to change the emission factor for NO_x emissions based on stack testing	08436T17
1300117.18B	Administrative amendment to change the emission factor for NO_x emissions based on stack testing	08436T18

IV. Regulatory Review

The facility currently complies with the following regulations as follows:

1. 15A NCAC 2D .0515: “Particulates from Miscellaneous Industrial Processes”
2. 15A NCAC 2D .0516: “Sulfur Dioxide Emissions from Combustion Sources”
3. 15A NCAC 02D .0614: “Compliance Assurance Monitoring”

4. 15A NCAC 02D .1413: "Sources not otherwise Listed in this Section"
   (Pertains to any source of nitrogen oxides, except boilers, indirect-fired process heaters, stationary combustion turbines, or stationary internal combustion engines, at a facility that has the potential to emit 100 tons per year or more of nitrogen oxides or 560 pounds per calendar day or more from May 1 through September 30 shall apply RACT).

   Note – This facility is located in the Metrolina area which was once in non-attainment for ozone. As such [1]major sources were required to apply RACT to both new and existing sources. This facility has the potential to emit greater than 100 tons per year of NO_x and therefore is subject to the requirements of Section 2D .1400 "Nitrogen Oxides" (i.e., RACT for existing NOx sources).

   The area is now in attainment for ozone emissions, however, the RACT requirements stay in place.

   Insignificant sources are exempt from NO_x RACT (15A NCAC 02D .1402(h)(1))

5. 15A NCAC 02D .0524: "New Source Performance Standards" (NSPS Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.")

6. 15A NCAC 02D .1111: "Maximum Achievable Control Technology" (MACT Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE).")

7. 15A NCAC 02D .0958: "Work Practices for Sources of Volatile Organic Compounds"

   State-enforceable only
8. 15A NCAC 02Q .0711: "Emission Rates Requiring a Permit"

9. 15A NCAC 02D .1109: "CAA 112(j), Case-By-Case MACT for Boilers and Process Heaters" effective until May 19, 2019. Note: by the time that this permit goes through the public notice and 45 day EPA review, this regulation will no longer be effective. This regulation shall be removed from the draft permit.

10. 15A NCAC 02D .1407 "Boilers and Indirect-Fired Process Heaters and 15A NCAC 02D .1414 Tune-Up Requirements"

    State-enforceable only
11. 15A NCAC 02D .1100: "Control of Toxic Air Pollutants"

    State-enforceable only
12. 15A NCAC 02D .1806: "Control and Prohibition of Odorous Emissions"

13. 15A NCAC 02Q .0317: "Avoidance Conditions"
    for 15A NCAC 02D .0530: "Prevention of Significant Deterioration,"
    for 15A NCAC 02D .0531: "Sources in Nonattainment Areas" and for emissions of nitrogen oxides.

14. 15A NCAC 02Q .0317: "Avoidance Conditions"
    for 15A NCAC 02D .0530: "Prevention of Significant Deterioration" for emissions of PM_{10} and $PM_{2.5}$.

15. 15A NCAC 02Q .0317: "Avoidance Conditions"
    for 15A NCAC 02D .0614: "Compliance Assurance Monitoring" (CAM) for source (ID No. ES-C-SHP3).

[1] Major sources are defined as having potential emissions exceeding 100 tpy of NOx and/or VOC. These pollutants are considered ozone precursors leading to the formation of ground-level ozone.

16. 15A NCAC 2D .0521: "Control of Visible Emissions"

There were no changes to the limits, testing, monitoring, record keeping and reporting requirements for the above regulations.

17. 15A NCAC 02D .0614: "Compliance Assurance Monitoring" (CAM)

Section 2.1 A. 4., pertains to the CAM plan for sources (ID Nos. ES-C-001, ES-C-002, ES-C-005, ES-C-006, and ES-C-009) which requires the Permittee to comply with the emission limits of 15A NCAC 02D .0515 by complying with the monitoring and record keeping requirements stipulated in Section 2.1 A. 4. b., of the permit. The Permittee had provided some draft language to this section of the permit. The Stationary Source Compliance Branch (SSCB) reviewed the proposed language made some changes to this draft. The approved version by SSCB is re-written into this section of the permit.

The major highlights of these changes are mentioned below:

The Permittee shall continuously monitor the differential pressure drops across the bagfilters and cartridge filter and record the pressure drop data at least once every 15 minutes via an electronic parametric monitoring system that notifies the operator of any out-of-range values (Section 2.1 A. 4. b. i., of the modified permit)

Based on the results of the approved monitoring, the permitting authority may require the owner or operator to develop and implement a Quality Improvement Plan in accordance with 40 CFR §64.8. (Section 2.1 A. 4. b. i. B., of the modified permit)

For the reporting requirements, the report shall also include the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR §64.8. Upon completion of a QIP, the Permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(Section 2.1 A. 4. d. i. through iii., of the modified permit)

18. 15A NCAC 02D .1111: MACT Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters."

The above regulation applies to the four natural gas-fired humidification boilers (ID Nos. ES-C-HB1a, ES-C-HB1b, ES-C-HB2a, and ES-C-HB2b)

These existing sources that are designed to burn gas 1 fuels with a heat input capacity greater than 5 million Btu per hour but less than 10 million Btu per hour shall follow the requirements below.

<u>Compliance Date</u>

40 CFR §63.7510(e): For existing sources, the Permittee must complete the initial tune up and the one-time energy assessment no later than May 20, 2019, as specified in 40 CFR §63.7495 (See Section 2.1 J. 6 d., of the modified permit).

The Permittee must complete an initial tune-up by following the procedures described in 40 CFR §63.7540(a)(10)(i) through (vi). These procedures are specified in Section 2.1 J. 6. f. i., and 2.1 J. 6. h. ii., of the modified permit.

Notifications

40 §63.7545(e)(1): The Permittee shall submit a Notification of Compliance Status (NOCS) to DAQ. The notification must be signed by a responsible official and submitted by July 19, 2019, and shall contain the following:

i. a description of the affected unit including identification of which subcategories the unit is in, the design heat input capacity of the unit, and description of the fuels burned.
ii. the certifications of compliance, as applicable:
   (A) this facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at the site according to the procedures in 40 CFR §63.7540(a)(10)(i) through (vi) (Section 2.1 J. 6. f. i., and 2.1 J. 6. h. ii., of the modified permit); and
   (B) this facility has had an energy assessment performed according to 40 CFR §63.7530(e) (Section 2.1 J. 6. g., of the modified permit) and is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

Work Practice Standards

As per the requirements of 40 CFR §63.7500(a), (e), 40 CFR §63.7540(a)(10) and (a)(11)
The Permittee shall conduct a tune-up of the boiler every two years as specified below.

(A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary;
(B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
(C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;
(D) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available; and
(E) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).

40 CFR §63.7515(d): each biennial tune-up shall be conducted no more than 25 months after the previous tune-up.

40 CFR §63.7540(a)(13) and 40 CFR §63.7515(g): If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

(These requirements are incorporated in Section 2.1 J. 6. f. i., of the modified permit)

Energy Assessment Requirements

MACT Subpart DDDDD, Table 3: The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in this table.

(See Section 2.1 J. 6. g., of the modified permit).

Recordkeeping Requirements

40 CFR §63.7540(a)(10)(vi): Maintain on-site and submit, if requested to DAQ a copy of each notification and report submitted to comply with this regulation, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report and information in paragraphs (A) through (C) below:

(A) the concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the source;
(B) a description of any corrective actions taken as a part of the tune-up; and
(C) the type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

40 CFR §63.7560: The Permittee shall:

(A) maintain records in a form suitable and readily available for expeditious review;
(B) keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
(C) keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.

(See Section 2.1 J. 6. h., and i., of the modified permit).

Reporting Requirements

40 CFR §63.7550(a) and Table 9 of MACT Subpart DDDDD: The Permittee shall submit compliance reports to the DAQ on a 2-year basis. The first report shall cover the period beginning on the May 20, 2019 and ending on December 31, 2020. The first report shall be postmarked on or before January 30, 2021. Subsequent 2-year reports shall cover the periods from January 1 to December 31.

The Permittee shall submit the subsequent compliance reports postmarked on or before January 30 for the previous 24-month period. These later dates are aligned with Title V reporting dates.

40 CFR §63.7550(h)(3): The Permittee must submit all reports required by Table 9 MACT Subpart DDDDD electronically to the EPA via the "Compliance and Emissions Data Reporting Interface" (CEDRI) which can be accessed through the EPA's "Central Data Exchange" (CDX) and must use the appropriate electronic report in CEDRI. The Permittee may submit an alternate electronic file consistent with the XML schema"[2] listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html).

The compliance report must contain the information mentioned in 40 CFR §63.7550(a) and (c) and Table 9 MACT Subpart DDDDD including the "Work Practice Standards"
Mentioned in Section 2.1 J. 6. f. i., of the modified permit, including the date of the most recent burner inspection.

(See Section 2.1 J. 6. k., and l. of the modified permit).

V. NSPS, NESHAPS/MACT, PSD, Attainment Status, 12(r), Air Toxics & (NCGS) 143- 215.107(a)(5) (House Bill 952), CAM and Compliance Status:

NSPS

The five Diesel fuel-fired emergency generators (ID Nos. ES-C-PG1a, ES-C–PG1b, ES-C-PG2a, ES-C-PG2b, and ES-C–PG2c) are subject to NSPS Subpart IIII. There were no changes to the limits, monitoring, record keeping and reporting requirements due to this renewal.

MACT

The five Diesel fuel-fired emergency generators (ID Nos. ES-C-PG1a, ES-C-PG1b, ES-C-PG2a, ES-C-PG2b, and ES-C-PG2c) are subject to MACT Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)." There were no changes to the limits, monitoring, record keeping and reporting requirements due to this renewal.

These boilers will be subject MACT Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" starting May 20, 2019. (See Section IV. 18., of the Regulatory Review above).

PSD

The facility has several PSD Avoidance conditions in the permit limiting the emissions of nitrogen oxides, PM_{10} and $PM_{2.5}$ emissions. There are no changes to these limits due to this renewal. However, the language in the PSD Avoidance conditions concerning how the emission factors could be revised or changed was removed (pages 31, 33, 34, 35 of the existing T18 permit). The following guidance was given the Permitting engineers from William Willets on September 8, 2017:

There are two instances of changing monitoring parameter values that can necessitate an amendment of the Title V permit:

(1) The results of the test indicate that compliance can be achieved at a less stringent parameter value. In this case, the facility may be motivated to seek a lowering of the permit limit to reduce costs. Until the facility acts to modify its permit, operation at the more stringent parameter value is still required.
(2) In this case, the permit modification the facility would seek qualifies as a minor modification under 2D .0515(a).

(3) The facility would follow the procedures for a minor modification which would allow operation at the less stringent level once any testing is approved and the application is submitted. The facility should be cautioned that it could be found in violation if, for whatever reason, the permit application is not approved. No permit application shield exists for minor modifications.

(4) The results of the test indicate that a more stringent parameter to achieve compliance. In this case, the

facility may be slow to seek an amendment since costs may go up and the shield protects the facility from enforcement until the permit is amended. In this case, the change to a more stringent monitoring requirement qualifies the amendment as administrative. The permit should be conditioned to require submittal of the results as an administrative amendment within 30 days of receipt of the test results as follows:

a. The facility must submit form "A" of the application along with their test report to the Permits Section as an administrative amendment.
b. The Permits Section enters the application into IBEAM and sends it to Technical Services Section.
c. The Technical Services Section shall review the stack test results under an expedited schedule within two weeks and enter the results of their review into IBEAM.
d. If approved, the package is returned to the Permits Section for an expedited administrative amendment of the Permit issuing the permit within two weeks of receiving the package from Technical Services Section.

Note that the placement of initial operating parameter values into the Title V permit would also be accomplished via an administrative amendment, but expedited review may not be expected.

CAM

40 CFR § 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard.

This facility has several sources subject to a CAM plan and one source (ES-C-SHP3) which has a CAM avoidance plan.

Some monitoring and reporting requirements for the CAM plan for sources (ID Nos. ES-C-001, ES-C-002, ES-C-005, ES-C-006, and ES-C-009) has been changed and is addressed in Section IV. 17., of this review, above.

Attainment Status and Increments

As per 40 CFR §81.334 "Designation of Areas for Air Quality Planning Purposes" Cabarrus County is in attainment of the National Ambient Air Quality Standards (NAAQS).

The minor source PSD Baseline dates for Cabarrus County has been triggered for PM_{10} and SO_2 emissions. However, this renewal does not consume or expand increments for any of these pollutants.

Compliance with (NCGS) 143-215.107(a)(5) (House Bill 952)

The current permit has toxic emission limits in Section 2.2 A. 1., of the permit. This renewal does not change the limits of the emission rates because there are no toxic pollutant increases. Therefore, this renewal application does not present an unacceptable risk to human health and thus complies with North Carolina General Statute (NCGS) 143-215.107(a)(5) (House Bill 952).

Compliance Status

Based on the compliance inspection report by Ms. Melinda Wolanin performed on 10/25/2018, the facility has had no violations in the past five years. Ms. Wolanin also, noted "based on my file review, this facility appeared to be in compliance with the applicable air quality regulations."

VI. Consistency Determination, Comments, and Recommendations

A zoning consistency determination is not required for this renewal application/permit.

A professional engineer's seal is not required for this renewal application/permit.

The foot notes in the current permit under the table that contains a summary of all permitted emission sources and associated air pollution control devices, lists several sources and control device that were permitted as 15A NCAC 2Q .0515 minor modification and 15A NCAC 02Q .0501(c)(2) major modifications. The 2Q .0501(c)(2) major modification requirements were to file a Title V Air Quality Permit application on or before 12 months after commencing operation. Per discussion with the Permittee on 3/7/2019, they made it known that these sources have started operation but their corresponding applications won't be filed before this renewal application goes to notice. Thus, the 2Q .0501(c)(2) requirement to file a Title V Air Quality Permit application on or before 12 months after commencing operation, will remain in place in the modified permit.

The Regional Office, the Permittee, and the SSCB (Stationary Source Compliance Branch) were provided a copy of the modified draft permit for this application for their comments. The following comments were added to the review and permit.

- The facility has 2 Diesel fire pumps manufactured July 1997 and November 2000, both with a 182 HP rating (DAQ assigned ID Nos. IES-FP1 and IES-FP2).
- Increased the number of house vacuums from nine to thirteen (insignificant activities).

VII. Table of changes to the existing Title V Permit:

Table of changes made in Air Quality Permit No. 08436T19

Page(s)	Section	Description of Change(s)
1	Cover letter	Amended application type; permit revision numbers, dates and included updated letterhead.
2	Cover letter	Changed date in header, updated issue date and expiration date.
3	Cover letter, Insignificant Activities Table	Changed the number of house vacuums from nine to thirteen; added two Diesel fuel-fired fire pumps (182 hp rating each, ID Nos. IES-FP1 and IES-FP2)
4	Cover letter	Revised the "changes to the permit" table.
N/A	All, Headers	Updated permit revision number.
1	Permit	Changed revision numbers, changed effective date and expiration date, changed application number, changed complete application date.
5	Table of Permitted Sources	Removed footnote concerning the minor modification for sources ES-C-001, C005 and their associated control devices.
9	2.1 A. 4.b. ii. and iii.	Changes in the monitoring and recordkeeping requirements.
10	2.1 A. 4.c.	Reporting requirements changed to match the current version in permitting.
27 thru 29	2.1 G.6.	Added the MACT DDDDD regulatory requirement to the permit.
Existing pages 31 thru 35	2.2 Multiple Emissions	Removed the language that stated that the "Permittee could administratively amend the permit to change emissions factors approved by NC DAQ" [See revision T18, Sections 2.2 C.1.d.iv., 2.2 D.1.g.ii., 2.2 E.1.b., and 2.2 F.1.b.]
41 thru 50	General Conditions	Updated the permit with the most current version